Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3025928 - PVC Bend 45° GY 63 S/SP BC
Unit:	1 Piece
Manufacturer:	Wavin - FR - Varennes

The Wavin range of PVC pipes and fittings to be glued covers all the usual diameters and allows you to create networks that are 100% compatible, homogeneous and meet the requirements of the French market.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - FR - Varennes (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.67E-1	5.31E-3	9.14E-3	1.81E-1	2.27E-3	9.61E-2	7.00E-4	-9.32E-2	1.87E-1
GWP-f	kg CO2 eq	1.88E-1	5.31E-3	6.90E-3	2.00E-1	2.26E-3	6.74E-2	6.99E-4	-1.06E-1	1.64E-1
GWP-b	kg CO2 eq	-2.12E-2	3.22E-6	2.23E-3	-1.90E-2	1.37E-6	2.87E-2	8.78E-7	1.28E-2	2.25E-2
GWP-luluc	kg CO2 eq	2.42E-4	1.88E-6	1.02E-5	2.54E-4	8.01E-7	2.80E-5	1.88E-8	-1.65E-4	1.18E-4
ODP	kg CFC11 eq	9.50E-8	1.22E-9	9.32E-10	9.72E-8	5.22E-10	7.73E-9	2.65E-11	-4.86E-8	5.69E-8
AP	mol H+ eq	9.13E-4	3.02E-5	5.37E-5	9.97E-4	1.29E-5	1.35E-4	6.44E-7	-4.39E-4	7.07E-4
EP-fw	kg P eq	9.08E-6	4.37E-8	1.70E-7	9.29E-6	1.86E-8	9.38E-7	8.44E-10	-4.76E-6	5.49E-6
EP-m	kg N eq	1.70E-4	1.08E-5	1.47E-5	1.95E-4	4.61E-6	3.38E-5	3.93E-7	-8.18E-5	1.52E-4
EP-T	mol N eq	1.83E-3	1.19E-4	1.95E-4	2.15E-3	5.08E-5	3.72E-4	2.57E-6	-8.90E-4	1.68E-3
POCP	kg NMVOC eq	5.85E-4	3.41E-5	4.36E-5	6.63E-4	1.45E-5	1.11E-4	8.81E-7	-2.93E-4	4.97E-4
ADP-mm	kg Sb eq	1.97E-4	1.37E-7	2.20E-7	1.98E-4	5.86E-8	5.34E-7	6.47E-10	-2.05E-6	1.96E-4
ADP-f	MJ	4.62E+0	8.14E-2	9.38E-2	4.80E+0	3.47E-2	3.63E-1	1.93E-3	-2.48E+0	2.71E+0
WDP	m3 depriv.	2.89E-1	2.50E-4	1.64E-1	4.53E-1	1.07E-4	1.40E-2	1.36E-5	-1.55E-1	3.12E-1
PM	disease inc.	6.95E-9	4.79E-10	7.36E-10	8.16E-9	2.04E-10	1.69E-9	1.33E-11	-3.92E-9	6.15E-9
IR	kBq U-235 eq	1.07E-2	3.56E-4	2.43E-4	1.13E-2	1.52E-4	1.29E-3	8.86E-6	-5.34E-3	7.41E-3
ETP-fw	CTUe	6.32E+0	6.61E-2	1.28E-1	6.51E+0	2.82E-2	2.72E+0	2.98E-2	-2.41E+0	6.88E+0
HTP-c	CTUh	1.64E-10	2.35E-12	8.19E-12	1.74E-10	1.00E-12	4.20E-11	5.36E-14	-6.56E-11	1.52E-10
HTP-nc	CTUh	5.07E-9	7.88E-11	2.37E-10	5.39E-9	3.36E-11	9.65E-10	5.73E-12	-2.05E-9	4.35E-9
SQP	Pt	3.06E+0	6.97E-2	9.40E-1	4.07E+0	2.97E-2	2.24E-1	4.93E-3	-4.26E+0	7.81E-2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.10E-1	1.17E-3	2.39E-1	8.50E-1	4.99E-4	2.57E-2	7.07E-5	-7.75E-1	1.01E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.10E-1	1.17E-3	2.39E-1	8.50E-1	4.99E-4	2.57E-2	7.07E-5	-7.75E-1	1.01E-1
PENRE	MJ	4.96E+0	8.65E-2	1.01E-1	5.14E+0	3.69E-2	3.87E-1	2.05E-3	-2.67E+0	2.90E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.96E+0	8.65E-2	1.01E-1	5.14E+0	3.69E-2	3.87E-1	2.05E-3	-2.67E+0	2.90E+0
PET	MJ	5.57E+0	8.76E-2	3.40E-1	5.99E+0	3.74E-2	4.12E-1	2.12E-3	-3.45E+0	3.00E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	3.38E-3	9.22E-6	3.85E-3	7.24E-3	3.93E-6	3.84E-4	2.36E-6	-1.94E-3	5.69E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.82E-5	2.08E-7	1.20E-7	2.85E-5	8.89E-8	6.02E-7	2.36E-9	-2.22E-6	2.70E-5
NHWD	kg	2.09E-2	5.05E-3	8.80E-4	2.69E-2	2.15E-3	1.35E-2	8.61E-3	-9.14E-3	4.20E-2
RWD	kg	9.62E-6	5.54E-7	2.42E-7	1.04E-5	2.36E-7	1.40E-6	1.26E-8	-4.81E-6	7.25E-6
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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